

HATNER, Georgiy L'vovich; RABOTNIKOV, V.S., red.

[Restorative surgery on the aorta and main vessels] Vosstanovitel'naya khirurgiya aorty i magistral'nykh sosudov. Moskva, Meditsina, 1965. 304 p. (MIRA 19:1)

RATNER, G.L.; SOLDATKIN, B.K.

Closure of a defect of the interauricular septum using
an ivalon obturator experimentally. Eksper. khir. i anest. 5
no.6:14-16 N-D '64. (MIRA 18:7)

1. Kafedra fakul'tetskoy khirurgii (zav. - prof. G.L.Ratner)
Kuybyshevskiy meditsinskogo instituta.

Prof. B. K. SHAMOV, B.K.

Diagnosis of the localization, extent and degree of constriction
in aortic coarctation. Grad. Khir. 6 no. 6:42-44 N-D 1922.

(MIRA 18:7)

1. Klinika fakul'tetskoy khirurgii (zav. - prof. I.D. Korabel'nikov)
Chelyubinskogo meditsinskogo Instituta i klinika fakul'tetskoy
khirurgii (zav. - prof. G.I. Ratner) Kuybyshevskogo meditsinskogo
Instituta. Adres Ratnera: G. Kuybyshev, Staryayevskaya ul. A. 80,
Meditsinskiy Institut.

MAITSEV, G.L., doctor. (Chelyabinsk, prospekt Lenina, 61, kv.31)

Differential diagnosis of acute arterial obstruction and
determination of the level of embolism. Vest. khir. 92 no.4:
152-157 Ap '64 (MIRA 18:1)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof.
I.D. Korabel'nikov) Chelyabinskogo medicinskogo instituta.

RATNER, G.L., dotsent; SHAROV.B.K.

Clinical roentgenological symptoms of regional metastases in lung cancer. Vop.onk. 9 no.1:63-69 '63. (MIRA 16:5)

1. Iz otdeleniya grudnoy khirurgii (zav.-dotsent G.L.Ratner) kliniki fakul'tetskoy khirurgii (zav.-prof.I.D.Korabel'nikov) Chelyabinskogo meditsinskogo instituta na baze mediko-sani-tarnoy chasti Chelyabinskogo traktornogo zavoda (glavnyy vrach L.L.Seredinina).

(LUNGS —CANCER)

(METASTASIS)

RATNER, G.L.

Restoration of the patency of the esophagus in non-removable tumors by the method of intubation. Vop.onk. 7 no.5:17-21 '61.

(MIRA 15:1)

1. Iz kliniki fakul'tetskoy khirurgii (zav. - prof. I.D. Korabel'-nikov) Chelyabinskogo meditsinskogo instituta (dir. - dots P.M. Tarasov).

(ESOPHAGUS--TUMORS)

RATHER, G. L. (Chelyabinsk, prosp. Lenina, d. 61, kv. 31);
ZASLAVSKIY, V. K.

Intubation of the esophagus in inoperable tumors; report No. 2.
Grud. khir. 4 no.3:55-58 My-Je '62. (MIRA 15:7)

1. Iz otdeleniya grudnoy khirurgii (zav. - dotsent G. L. Ratner)
kliniki fakul'tetskoy khirurgii (zav. - prof. I. D. Korabel'-
nikov) Chelyabinskogo meditsinskogo instituta (dir. - dotsent
P. M. Tarasov)

(ESOPHAGUS--CANCER) (ESOPHAGUS--INTUBATION)

RATNER, G.L.; doktor med. nauk

Severing the abdominal aorta with late complete restoration
of the main blood flow. Khirurgia no.1:121-123 '63.

(MIRA 17:5)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. I.D.
Korabel'nikov) Chelyabinskogo meditsinskogo instituta.

RATNER, G.L.; SVINKIN, I.K.

"Tantalum mechanical suture in stomach resection" by IU.IA.
Gritsman. Reviewed by G.L.Ratner and I.K.Svinkin. Med.prom.
16 no.6:63 J1 '62. (MIRA 15:12)
(SUTURES) (TANTALUM—THERAPEUTIC USE)
(STOMACH—SURGERY)
(GRITSMAN, IU.IA.)

RATNER, G.L.

Detection and surgical treatment of coarctation of the aorta.
Vest.khir. 89 no.7:11-15 J1 '62. (MIRA 15:8)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. I.D.
Korabel'nikov) Chelyabinskogo meditsinskogo instituta (dir. -
dotsent P.M. Tarasov).
(AORTA---SURGERY)

RATNER, G.L., dotsent

Alloplasty in the treatment of traumatic aneurysms. Ortop.,
travm.i protez. 23 no.6:36-39 Je '62. (MIRA 15:9)

1. Iz kliniki fakul'tetskoy khirurgii (sav. - prof. I.D. Korabel'-
nikov) Chelyabinskogo meditsinskogo instituta (rektor - dotsent
P.M. Tarasov).

(ANEURYSMS) (FISTULA, ARTERIOVENOUS)

RATNER, G.L.; SIDEL'MAN, K.N.

Tissue reaction to the implantation of some synthetic materials.
Eksper, khir. i anest. 8 no.3:57-58 My-Je '63 (MIRA 17:1)

1. Iz kliniki fakul'tetskoy khirurgii (zav. - prof. I.D.
Korabel'nikov) i kafedry patologicheskoy anatomii (zav. - prof.
A.I.Vorotilkin) Chelyabinskogo meditsinskogo instituta.

RATNER, G.L.

Plastic surgery of the blood vessel in operations on oncological patients. Vop.onk. no.8:8-12 '61. (MIRA 15:1)

1. Iz kliniki fakul'tetskoy khirurgii (zav. - prof. I.D. Korabel'-nikov) Chelyabinskogo meditsinskogo instituta (dir. - dots. P.M. Tarasov).

(TUMORS)

(BLOOD VESSELS--SURGERY)

RATNER, G.L.

"New surgical instruments and apparatus for chest surgery" by
A.M. Geselevich and N.S. Gorkin. Reviewed by G.L. Ratner. Med.
prom. 15 no. 12:58 D '61. (MIRA 15:2)
(SURGICAL INSTRUMENTS AND APPARATUS)
(GESELEVICH, A.M.) (GORKIN, N.S.)

RATNER, G.L.; FOKIN, A.A.; SHAFRAN, G.L.

Successful surgical therapy of a patient with aortic coarctation
and patent ductus arteriosus. Grud. khir. 3 no.2:98-99 '61.

(MIRA 14:4)

(DUCTUS ARTERIOSUS)

(AORTA--DISEASES)

RATNER, G.L., dotsent

Use of combined prostheses in surgery of the blood vessels.
Khirurgiia 36 no.12:19-24 '60.

(MIRA 14:1)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. -- prof. I.D.
Korabel'nikov) Chelyabinskogo meditsinskogo instituta.
(BLOOD VESSELS SURGERY)

RATNER, G.L., kand.med.nauk

Constructive surgery in wounds of the blood vessels under military field conditions. Voen.-med.zhur. no.10:27-29 0 '58. (MIRA 12:12)

(BLOOD VESSELS, wds, & inj.

restorative surg. in military field cond. (Rus))

(MEDICINE, MILITARY AND NAVAL

blood vessel wds., restorative surg. in field cond.

(Rus))

COUNTRY : USSR
 CATEGORY : Human and Animal Physiology, Thermoregulation
 ABS. JOUR. : RZhBiol., No. 5 1959, No. 21863
 AUTHOR : Retner, G.I.
 INST. : Chelyabinsk Medical Institute
 TITLE : A New Method of Hypothermia
 ORIG. PUB. : V sb.: Materialy Nauchn. konferentsii Chelyab. med. in-ta, posvyashchen. 40-letiyu Velikoy Okt. sots. revolyutsii. Chelyabinsk, 1958, 214--215
 ABSTRACT : The method consists in introducing into the stomach a rubber balloon connected with double tube. Water at a temperature of 1 or 2° enters the balloon through one of the tubes and flows out through the other. Water is passed through the system at a temperature of 42--45° to restore body temperature. The advantages of this method are substantial. Chilling and warming the organism occurs rapidly, more rapidly than with any other method. Thus a dog weighing 8.3 kg was 1/2

Card:

T-17

Card: 2/2

VOVSI, H.S.; RATHER (Moskva)

Diagnostic and therapeutic methods in nephritis. Terap.arkh.
31 no.6:6-21 Je '59. (MIRA 12:9)
(NEPHRITIS,
diag. & ther. (Rus))

ANISHCHENKO, I.S.; RATNER, G.L., kand.med.nauk

Perforations in stomach cancer. Sov.med. 23 no.7:124-126
J1 '59. (MIRA 12:11)

1. Iz Chelyabinskogo oblastnogo onkologicheskogo dispansera
(glavnyy vrach N.M.D'yachkova) i kafedry fakul'tetskoy khirurgii
(zav. - prof.I.D.Korabel'nikov) Chelyabinskogo meditsinskogo
instituta.

(STOMACH neoplasms)

RATNER, G.L., kand.med.nauk

Methods for the restoration of continuity of the blood vessel
in combat injuries. Voen.-med.zhur. no.7:32-35 J1 '59.
(MIRA 12:11)

(BLOOD VESSELS surg)
(SUTURES)

EXCERPTA MEDICA Sec 16 Vol 7/9 Cancer Sept 59

3708. **The clinical and anatomical classification of tumours (Russian text)** RATNER G. L. Med. Inst., Cheliabinsk, USSR *Vopr. Onkol.* 1959, 5/2 (214-216)
The necessity of classifying tumours not only according to the 4 stages of the developmental process in the primary focus but also to 4 stages of metastasization is confirmed. The description of such stages is given. Roman numerals are thought to be useful for designating stages of the primary tumour, and arabic ones for determining metastasization stages.

RATNER, G.L.

Alloplasty of the abdominal aorta with a porous transplant
of capron [with summary in English]. Eksper.khir. 4 no.1:47-49
Ja-F '59. (MIRA 12:2)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. I.D. Korabel'-
nikov) Chelyabinskogo meditsinskogo instituta (dir. - prof. G.D.
Obratsov).

(AORTA, surg.

abdom. alloplasty with porous capron in dogs
(Rus))

(PLASTICS,

porous capron aortic prosth. (Rus))

ANISHCHENKO, I.S., RATNER, G.L., kand.med.nauk

Cancer of the stomach and pregnancy. Akush. i gin. 34 no.4:100-102
Jl-Ag '58 (MIRA 11:9)

1. Iz kliniki fakul'tetskoy khirurgii (zav. - prof. I.D. Korabel'nikov)
Chelyabinskogo meditsinskogo instituta i Chlyabinskogo oblastnogo
onkologicheskogo dispansera (glavnyy vrach N.M. D'yachkova);

(STOMACH NEOPLASMS, in pregn.
diag. (Rus))

(PREGNANCY, in various dis.
cancer of stomach, diag. (Rus))

USSR / General Problems of Pathology. Comparative Oncology.
Human Tumors.

U-5

Abs Jour : Ref Zhur - Biol., No 17, 1958, No 80331

Author : ~~Ratner, G. L.~~

Inst : Not given

Title : Adenomatous Metastasis of the Thyroid Gland.

Orig Pub : V sb.: Tr. obl. konferentsii po endemichesk. sobu i bolesnyam
shchitovidn. zhelezsy. Chelyabinsk, 1957, 82-87.

Abstract : Two cases are cited of adenomatous metastasis of the thyroid gland in a 28-year-old man and a 27-year-old woman. In the first case, metastases were removed from the neck three times, over the period of six years; after the removal of the adenoma (primary focus), no relapses were observed. In the second patient, a metastasis was found at the border of the temporal lobe area. These tumors should be treated as metastases of ordinary benign adenomas.

Card 1/1

RATNER, G.L., doktor med. nauk

Surgical tactics in arterial embolism. Vest. Khir. 91
no.12:87-89 D '63. (MIRA 17:9)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav.- prof. I.D.
Korabel'nikov) Chelyabinskogo meditsinskogo instituta i fakul'-
tetskoy khirurgicheskoy kliniki (zav.- doktor med. nauk G.L.
Ratner) Kuybyshev Chapayevskaya 89, Meditsinskiy institut,
kafedra fakul'tetskoy khirurgii.

ANISHCHENKO, I.S. (Chelyabinsk, Kirovskiy gorodok, ul. Peredovaya, d.21, kv.11), RATNER, G.L., (Chelyabinsk, ul. Spartaka, d.61/63, kv.3)

Gastric cancer following surgical therapy of peptic ulcer [with summary in English]. Vop.onk. 4 no.3:312-315 '58 (MIRA 11:8)

1. Iz Chelyabinskogo oblastnogo onkologicheskogo dispansera (glavn.vrach. - N.M. D'yachkova) i kafedry fakul'tetskoy khirurgii (zav. - prof. I.D. Morabel'nikov) Chelyabinskogo meditsinskogo instituta.
(STOMACH NEOPLASMS, case reports,
postgastrectomy in peptic ulcer (Rus))
(GASTRECTOMY, complications,
postop. cancer in peptic ulcer ther. (Rus))

RATNER, G.L., kand.med.nauk

Arterial blood supply of the prostate in prostate hypertrophy.
Urologia 22 no.6:27-31 M-D '57. (MIRA 11:2)

1. Iz gosital'noy khirurgicheskoy kliniki (zav. - chlen-korrespondent ANU SSSR prof. A.T.Lidskiy) Sverdlovskogo meditsinskogo institute.

(PROSTATE HYPERTROPHY, pathol.
arterial blood supply)

RATNER, G.L.

Change in a model of an instrument for applying a purse-string suture to the small intestine. Med.prom. 12 no.1:54-55 Ja '58.
(MIRA 11:2)

1. Chelyabinskiy meditsinskiy institut
(SUTURES)
(SURGICAL INSTRUMENTS AND APPARATUS)

RATNER, G.L., kandidat meditsinskikh nauk

Angioplasty; a review of Soviet and foreign literature. Vest.khir.
77 no.5:102-115 My '56. (MLRA 9:8)

1. Iz kliniki fakul'tetskoy khirurgii (sav. prof. I.D.Karabel'nikov)
Chelyabinskogo meditsinskogo instituta (dir. prof. G.D.Obrastsov)
(BLOOD VESSELS, surgery,
angioplasty, review (Rus))

RATNER, G.L., kandidat meditsinskikh nauk

Strangulated diaphragmatic hernia. Vest.khir.75 no.6:134
Jl '55. (MLRA 8:10)

1. Iz bol'nitsy g. Konsomol'ska-na-Amure.Konsomol'ska-na-Amure,
Daengi, Dal'nevostochnaya ul.,1, kv.10
(DIAPHRAGM--HERNIA)

RATNER, G.L., kandidat meditsinskikh nauk; RODYUKOVA, L.N.

Unusual case of gastric calculus. Vest.rent.i rad. no.1:89-91
Ja-P '55. (MLRA 8:5)

1. Iz bol'nitsy No.2 Komsomol'ska-na-Amure (glavnyy vrach P.Ya.
Foz).

(HEZOARS,
case reports)

USSR/General Problems of Pathology - Tumors. Comparative
Oncology. Tumors of Man

U

Abs Jour : Ref Zhur Biol., No 6, 1959, 27501

Author : Anishchenko, I.S., Ratner, G.L.

Inst : -

Title : Carcinoma of the Stomach and Pregnancy

Orig Pub : Akusherstvo i ginekologiya, 1958, No 4, 100-102

Abstract : 11 pregnant patients who suffered carcinoma of the stomach were under observation. 6 patients were 22-29 years of age, 5 patients -33-42 years of age. In a number of patients, aside from a feeling of pressure and pain in the epigastric region, nausea, and vomiting, there were no other symptoms of carcinoma of the stomach. Almost all patients were acutely cachectic; in 10 of them the tumor was clearly palpated in the epigastric region. 3 patients were subjected to radical surgery; one of them has been alive for 5 years. The author feels that

Card 1/2

EXCERPTA MEDICA Sec 16 Vol 7/1 Cancer Jan 59

324. *Cancer of the stomach after surgical treatment for peptic ulcer (Russian text)* ANET-SHIENKO I. S. and RAISER G. L. Oncol. Inst. and Med. Inst., Cheliabinsk Vopr. Onkol. 1958, 4:3 (312-315) Tables 1

Fifteen cases of carcinoma in a stomach previously operated upon are described. In 6 cases a gastroenterostomosis had been made for peptic ulcer, in 5 cases a gastric resection had been performed for gastroduodenal ulcer, and in 4 cases the stomach had been resected for polyposis. It is stressed that a timely diagnosis in cases of this type is quite possible as the symptomatology does not differ from that in the unoperated stomach. However, radical treatment could be carried out in 4 cases only. Exploratory laparotomy was done in 4 cases. The remaining 7 cases were found to be inoperable from the first. Histological confirmation was possible in 13 cases.

RATNER, G.L. (Chelyabinsk, ul. Spartaka, d.61/63, kv.3)

Clinical-anatomical classification of tumors. Vop.onk. 5
no.2:214-216 '59. (MIRA 12:6)

1. Iz kliniki fakul'tetskoy khirurgii (zav. - prof. I.D.
Korabel'nikov) Chelyabinskogo meditsinskogo instituta.
(NEOPLASMS
classif., clin. & anat. aspects (Rus))

RATNER, G. L., Doc Med Sci -- Comparative evaluation and
use of ~~the~~ combined vascular prosthesis. (Experimental ^{and} clinical
study)." Chelyabinsk, 1961. (Min of Health USSR, Sverdlovsk
State Med Inst) (KL, 8-61, 258)

RATNER, G.L., dotsent (Chelyabinsk, pr. Lenina , d.61, kv.31);
SHAROV, B.K.

Surgery for a rare variety of the "vascular ring." Vest.khir.
86 no.3:70-72 Mr '61. (MIRA 14:3)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (sav. - prof. I.D.
Korabel'nikov) Chelyabinskogo meditsinskogo instituta na baze
mediko-sanitarnoy chasti Chelyabinskogo traktornogo zavoda (gl.
vrach - L.L. Seredinina).

(AORTA—ABNORMITIES AND DEFORMITIES)

RATNER, G.L.

Surgical treatment of obliterating processes of the branches
of the aortic arch. Grud.khir. no.3:107-113 '61. (MIRA 14:9)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. I.D. Kora-
bel'nikov) Chelyabinskogo meditsinskogo instituta.
(AORTA--DISEASES) (THROMBOSIS)

ACC NR:AT5036661

SOURCE CODE: UR/0000/66/000/000/0290/0291

AUTHOR: Novopashina, R. F.; Ratner, G. S.

ORG: none

TITLE: Possibility of utilizing activated sludge obtained during the biological purification of sewage as a food source for animals /Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966/

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 290-291

TOPIC TAGS: life support system, closed ecological system, space nutrition, space biology

ABSTRACT:

Activated sludge is obtained as a result of processing sedimentation tank deposits by prolonged aeration in water. Ripened sludge is a complex mixture of organic flakes and living organisms which inhabit these flakes. The majority of the organisms in activated sludge multiply by simple cell division. Temperature and other factors play an important role in the process. Growth of activated sludge is accomplished by multiplication of the organisms and oxidation of organic substances.

Card 1/3

ACC NR: AT6036661

It is possible to use activated sludge as a source of nourishment for animals because it contains a high percentage of nitrogen compounds (up to 40%) and organic compounds (up to 80%), as well as certain vitamins (B₁, B₁₂). Activated sludge can be made sufficiently harmless by desiccation to prevent the animals from becoming ill.

Experiments demonstrated that the addition of activated sludge to a mixture of concentrated fodder did not put sheep off their feed. Daily rations of fodder were completely consumed. No digestive disturbances or other external signs of illness were observed in experimental animals.

The nutritional value of activated sludge was tested on pigs. It was found that a partial replacement of protein-growth feed by activated sludge gave quite positive results in weight increase. No negative effect of activated sludge on the quality of production of pigs was observed.

The effect of activated sludge was also tested on ducklings. Substitution of activated sludge for 50% of their diet was found to be possible.

Thus, investigations have demonstrated that it is possible to use activated sludge as part of animal fodder. However, it has not yet been determined what dosages of activated sludge produce the most posi-

Card 2/3

ACC NR: AT6036661

tive effects. The composition of activated sludge, which can vary greatly depending on the water, should also be taken into consideration. At the same time, it is possible to state that activated sludge can be successfully fed to animals which are raised as a source of food.

[U. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 3/3

ACC NR: AT0030626

SOURCE CODE: UR/0000/66/000/000/0323/0323

AUTHOR: Ratnor, G. S.

ORG: none

TITLE: Higher heterotrophes (birds) as a food source on spaceflights [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 323

TOPIC TAGS: closed ecological system, life support system, space nutrition, animal physiology, biologic metabolism, space food, metabolic waste

ABSTRACT:

Since the amount of food that can be stored on a spaceship is limited, food will have to be grown on board spaceships for long duration flights (one year or more). The raising of domestic fowl (chickens and ducks) on board spaceships has definite advantages since they are simple to raise, grow quickly, and provide food products which are both nutritionally and psychologically satisfying.

Card 1/2

ACC NR: AT6036626

There is evidence that chickens can use the following items as food: chicken entrails (up to 30 g/diem), earthworms and mollusks (up to 12 g), marine invertebrates (up to 50 g), microbes and insects (living organisms, which utilize human metabolic wastes), wastes resulting from processing of higher plants (up to 80 g/diem), and solid metabolic wastes. Consequently, the inclusion of a link of higher heterotrophs (birds) in the life-support system of a spaceship will not only provide valuable nutritional products, but will also result in maximum utilization of remainders and metabolic wastes.

[W. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 2/2

MARTYNOV, L.S., prof. doktor. tekhn. nauk; RATNER, G.S.; LAZARENKO, V.M.,
kand. tekhn. nauk, dotsent; LINSKIY, V.V.; DALIDOVICH, A.S.,
prof., doktor tekhn. nauk

Problems in the analysis of the process of loop formation.
Tekst. prom. 25 no.4:72-81 Ap '65. (MIRA 18:5)

1. Leningradskiy institut tekstil'noy i legkoy promyshlennosti
imeni S.M. Kirova (for Martynov). 2. Glavnyy inzh. trikotazhnoy
fabriki "Krasnoye znamya" Soveta narodnogo khozyaystva Leningrad-
skogo ekonomicheskogo rayona (for Ratner). 3. Leningradskiy institut
tekstil'noy i legkoy promyshlennosti imeni S.M. Kirova (for
Lazarenko). 4. Vedushchiy konstruktor Spetsial'nogo konstruktor-
skogo byuro trikotazhnykh mashin (for Linskiy). 5. Moskovskiy
tekstil'nyy institut (for Dalidovich).

RATNER, G.S.

RATNER, G.S.

For high labor productivity. Leg.prom. 14 no.5:8-12 Ny '54. (MLRA 7:6)

1. **Glavnyy inzhener chalochno-trikotazhnoy fabriki "Krasnoye Znamya"**
(Knit goods industry)

ACC NR: AT6036627

SOURCE CODE: UR/0000/66/006/000/0324/0325

AUTHOR: Ratner, G. S.; Tikhonravova, N. M.; Atamanenko, A. N.; Novopashina, R. F.;
Pakhorukov, A. M.

ORG: none

TITLE: Problem of utilizing several species of higher and lower heterotrophs in a
life-support system for small closed compartments [Paper presented at the
Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny. (Problems of space
medicine); materialy konferentsii, Moscow, 1966, 324-325

TOPIC TAGS: life support system, closed ecological system, space nutrition,
space food

ABSTRACT:

Life-support systems on small spaceships will have to include a
link of heterotrophic organisms in order to supply the crew with animal
products necessary for the normal human diet. For this purpose it is
valuable to examine a series of heterotrophic organisms which can be
successfully utilized in life-support systems.

Card 1/3

ACC NR: AT6036627

The inclusion of various types of herbivorous and omnivorous fish (Tilapia, Hypophthalmichthys, Ctenopharyngodon, carp, and others) will make it possible to provide a more variable protein diet for humans and to utilize wastes of higher and lower plants and animals. In order to supply a man with 50 g of animal protein per diem will require 51.6 kg of Tilapia. With a fish population density of 15 g/liter of water, it is necessary to have a 3500-liter aquarium which will require approximately 112 liters of oxygen per diem.

Certain water invertebrates such as Artemia, Gammarus, and Daphnia may prove to be a valuable addition to the cosmonaut diet. These animals are readily eaten by fish and chickens. Calculations indicate that in order to get 50 g of protein per diem from Daphnia at a population density of 200 g/m³, 31.2 m³ will be required. Certain species of Gammarus may make it possible to obtain the same amount of protein from 4 m³.

Since heterotrophic organisms (birds, fishes, and others) which can be used as sources of animal protein for human nutrition in space-flight will not be able to utilize all of the wastes, and will themselves require a certain amount of animal food for their growth, it seems

Card 2/3

ACC NR: AT6036627

necessary to add a link of the so-called primary utilizers of organic substances. Among these should be included organisms which compose the biocenosis of activated sludge and certain terrestrial species of lower heterotrophs.

The final selection of individual species of heterotrophs for inclusion in the life-support system can be made only after prolonged experiments to determine the possibility of adaptation of organisms to the specific conditions of the spaceflight environment and the biological compatibility of the selected animals.

[U. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 3/3

OSTROVSKIY, B.Z., inzh.; RATHER, I.I., inzh.

Universal folding press for men's shirt parts. Shvein. prom. no.4:
32-33 JI-Ag '59. (MIRA 13:2)

1. Ukrlegmashproyekt Kiyevskogo sovnarkhoza.
(Pressing of garments) (Shirts, Men's)

RATNER, I.M.; CHIBISOV, K.V.; KARGIN, V.A.

Study of the structure of silver nuclei in a photographic emulsion.

Zhur. nauch. i prikl. fot i kin. 2 no.1:7-12 Ja-P '57.

(MIRA 10:3)

I.Vsesoyuznyy nauchno-issledovatel'skiy kino-fotoinsitut.

(Photographic emulsions)

Category : USSR/Optics - Scientific photography

K-11

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 2652

Author : Ratner, I.M., Titov, A.A.

Title : Role of Internal Centers Formed in the Photolysis of Emulsion in the Maturation Process.

Orig Pub : Uspekhi nauch. fotografii. T. 3. M., Izd-vo AN SSSR, 1955, 61-65

Abstract : Investigation of the effect of the Ag-centers, formed in the first maturation, on the maximum light sensitivity $S_{\max}$ and on the fog D_0 corresponding to it, attainable in the second maturation. The Ag-centers were produced by exposing the emulsion during various stages of the first maturation with an incandescent lamp ($T_c = 3000^\circ$) for 5 -- 120 seconds, with illumination intensity E 1 -- 10^6 lux. The results are represented by curves $S_{\max} = f(\log E)$ and $D_0 = f(\log E)$. As E increases, $S_{\max}$ and D_0 at first remain almost unchanged, after which $S_{\max}$ diminishes rapidly and D_0 increases slightly. After passing through a minimum, $S_{\max}$ again increases, while D_0 increases sharply at the same time. The lower the exposure and the later (at the later stage of the first maturation) it is produced, the lower the values of E at which $S_{\max}$ starts to diminish and D_0 starts to increase. The curve for the increase of the non-haloid Ag in the first maturation is parallel to the curve of D_0 . In the authors' opinion the internal Ag centers formed at the start of the first maturation are subsequently

Card : 1/2

Category : USSR/Optics - Scientific photography

K-11

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 2652

"overgrown" by a layer of AgBr and therefore cannot act as fog centers, but compete with the surface center for the capture of photoelectrons, and therefore cause a decrease in S_{max} . The increase in D_0 occurs under exposure conditions that increase the probability of the emergence of the Ag centers to the surface. The increase in S_{max} after passing through the minimum is attributed not to the Devau effect, since the spectral sensitivity is independent of the exposure conditions, but apparently to the decrease of the acceptor ability of Ag centers that have grown past a certain "critical" size. The same cause is used by the authors to explain the drop in S during the second maturation after reaching a maximum in the normal synthesis of the emulsions.

Card : 2/2

RATNER, I. M.

Ratner, I. M. - "Kinetics of the interaction of gelation and silver ions,"
report 95, Trudy NIKFO (Nauch.-issled. kino-foto-in-t),
Issue 8, 1948, p. 20-40 --- Bibliog: p. 40

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)

Role of the internal centers formed in the photolysis of emulsions in the process of ripening. I. M. Ratner and A. A. Titov, *Doklady Akad. Nauk SSSR*, 200, 217-21 (1961).—A photographic emulsion was prepared by two-step emulsification of an ammoniacal Ag soln. in a soln. of KBr confg. gelatin and NaNO_3 , followed by 35-min. standing at 40°C , centrifugation of the AgBr, and redispersing in a fresh gelatin soln. for 2nd ripening. The emulsions were illuminated with known intensities I of 200, 60, and 120 sec. 2nd emulsification (120 sec.), or 15 min. after the end of the 1st ripening (120 sec.), and curves of the max. sensitivity S and of the lag d . D_0 were detd. in each case. Illumination after the 1st ripening results in strongly increased D_0 which prevents detn. of D_0 . In contrast, illumination at the beginning of the 1st emulsification, even with 100 lux for 30 sec., produces no significant increase of D_0 ; however, if the illumination is prolonged or is applied at later stages of 1st ripening, an increase of D_0 occurs at increasingly lower I . In all cases, S as a function of lag f passes through a minimum. These results reveal a fundamental difference between internal centers, seated deep in the crystal grains, and the surface centers produced by illumination and responsible for the lag d . The internal centers do not come into contact with the developer and cannot therefore catalyze its action. The desensitizing effect of the internal centers, which results in the min. of S , is readily explained by the competition between internal and surface centers for photoelectrons. The increase of S beyond the min. cannot be attributed to an increase of the size of the internal centers, and to increasing prevalence of their electron-donor over the electron-acceptor function, as the spectral distribution of the sensitivity is practically independent of the illumination (1500-1,000,000 lux, 30 sec. at the beginning of the 1st emulsification). Rather, the effect is due to a decrease of the acceptor activity of the centers beyond a certain crit. "optimum" size. With increasing I , the no. of the low-activity centers, exceeding the optimum size, increases, and their competition with the surface centers for photoelectrons weakens; this causes an increase of S . This process is the reverse of that responsible for the fall of S in the 2nd ripening

beyond the max. owing to an excessive increase of the num. of nonhalide Ag in the surface centers. N. Titov

U S S R

904

771.534 : 77.021.116

The Relation Between the Maximum Light Sensitivity of a Photographic Emulsion, its Corresponding Fog Density, and the Accumulation of Nonhalide Silver on Ripening. J. M. RAYNER, *Doklady Akad. Nauk S.S.S.R.*, 1952, 84, 753-755.

The maximum light sensitivity of an emulsion passes through a minimum with increasing actinic illumination of the emulsion during the ripening process. Analysis of the photolytic silver formed by this irradiation shows that the amount of silver necessary to cause the drop in sensitivity is beyond the limits of the potentiometric titration method used. Silver formation is detected only after the light sensitivity has passed through the minimum. This is also true of fog formation. Apparently the silver particles formed by extensive illumination lose their activity as electron acceptors when they are larger than a certain size.

Chem. Abs.

Mechanism of ripening of photographic emulsions. II. Relation between the processes of change of light-sensitivity, growth of fog, and formation of silver during ripening. A. Mikhailova, I. M. Ratner, A. A. Titov, and K. V. Chibrikova (All-Union Scientific Inst. Moscow). *Zhur. Fiz. Khim.* 27, 866-77 (1953); *cf. C.A.* 44, 2877b, 46, 6018c. The light-sensitivity (S) and fog d. (D) were measured of several photographic emulsions, each at various stages of secondary ripening; the amt. of metallic Ag (a) in each sample was detd. by fixation of the unexposed emulsion at 10° followed by soln. of the residual Ag in HNO_3 and potentiometric titration. Data on S , D , and a are presented graphically for emulsions of AgBr (I), ripened with and without NH_3 , I with 3, 5, and 7.5 mole % AgI, ripened with NH_3 , and I with 1 and 3×10^{-4} g. thiosulfamide/g. of gelatin, ripened with NH_3 . Other graphs show the effects of variation of bromide concn., temp. of secondary ripening, and the amt. of pre-exposure (from 0 to 2.4×10^4 lux-sec. during first ripening). The temp. dependence (c) of the rate of growth of S and D , expressed as the gradient of the linear curve of $R \ln t$ plotted as a function of $1/\theta$, where t is the time required for S , D , or a to reach a given value and θ is the abs. temp., is the same for S and D in any given emulsion; the c of a may be the same or different. On the basis of exptl. data the following law is proposed: the max. sensitivity always coincides with the beginning of sharp increase of fog and with the end of the induction period for the formation of free Ag.

J. W. Loweberg, Jr.

BB 94

U.S.S.R.

388 77.021.11
Formation of Internal Centres as a Result of the Finishing Process in Photographic Emulsions. K. V. CHIBISOV and I. M. RATNER. *Doklady Akad. Nauk. S.S.S.R.* 1953, 89, 329-332.—The influence of hydrazine and sodium thiosulphate on the ripening process is studied. The maximum sensitivity and the fog density are taken as criteria. Maximum sensitivity decreases with increasing concentration of Hydrazine sulphate and increases with increasing concentration of sodium thiosulphate up to a certain point. This dependence and the dependence on sulphide concentration are shown in graphs. *Chem. Abs.*

RATNER, I. M.

K. V. CHIBISOV and I. M. RATNER

"Dependence of Photographic Properties of Emulsion upon the Conditions of Recrystallization Process," Doklady Akad Nauk (USSR) 90: 71-73 No. 1, 1953.

This is a routine study of photographic sensitivity as influenced by the bromide ion concentration during precipitation. The results are interesting enough, much as to be expected, and the work is probably reliable. The theoretical analysis is very questionable. The authors draw an important conclusion, which has no real foundation in their data (attributing effects of bromide ion on finishing to production of internal image) but which could have been confirmed by simple experiments. One would guess that this conclusion is at least as likely to be wrong as correct. The senior author, ~~CHIBISOV~~ Chibisov, is an old hand at this type of study. The name of Ratner first appears in Chemical Abstracts in 1952.

IX

RATNER, I.M.; TITOV, A.A.

Role of internal centers forming in the photolysis of emulsions
during digestion treatments. *Usp.nauch.fot.* 3:61-65 '55.
(Photographic sensitometry) (MLRA 9:1)

RATNER, I.M.

Effect of nuclei in the chemical ripening of photographic emulsions.

Zhur.nauch. i prikl.fot. i kin. 3 no.4:251-255 J1 - Ag '58.

(MIRA 12:3)

1.Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut.
(Photographic emulsions)

RATNER, L.M.

USSR

6 77.01 : 77.021.11
Dependence of the Photographic Properties of Emulsions on the Conditions of the Recrystallisation. K. V. CHIBISOV and L. M. RATNER. *Dokl. Akad. Nauk SSSR*, 1953, 90, 71-74.—Study of the kinetics of the secondary aging and of the grain-size distribution in silver bromide emulsions leads to the conclusion that the maximum light sensitivity of the emulsions depends not only on the dimensions of the microcrystals but also on the rate of recrystallisation and the rate of chemical aging with formation of inner light-sensitive centres.

J. Appl. Chem.

62
1

BLIVSHTEYN, M.M., inzh.; RATNER, I.M., inzh.

Mechanization of engineering and management operations and
problems of planning. Vest.mashinostr. 44 no.1:74-81 Ja '64.
(MIRA 17:4)

MURAVCHIK, TS.E., inzh.; RATNER, I.M., inzh.

Using priced group catalogs in mechanizing the recording of the
motion of cutting tools. Vest.mashinostr. 42 no.6:77-78 Je
'62. (MIRA 15:6)

(Metal cutting)

RATHER, I.M.

Investigating the mechanism of the sensitization of photographic emulsions with gold salts. Zhur.nauch. i prikl.fot i kin. 5 no.5: 365-367 S-O '60. (MIRA 13:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI).
(Photographic emulsions)

RATNER, I.M.

Role of nuclei in the chemical ripening of photographic emulsions.

Zhur. nauch. i prikl. fot. i kin. 3 no.4:251-255 J1-Ag '58.
(MIRA 11:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut.
(Photographic emulsions)

TITOV, A.A.; RATNER, I.M.

Kinetics of the relation of the gelatin to silver ions. Trudy NIKFI
no. 8:20-40 '48. (MIRA 11:5)

(Photographic emulsions)

SOV 77-3-4-3/23

AUTHOR: Ratner, I.M.

TITLE: The Role of Nucleus Centers in the Chemical Maturation of Photographic Emulsions (Rol' zarodyshey pri khimicheskoy szrevanii fotograficheskoy emul'sii)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1958, Vol 3, Nr 4, pp 251-255 (USSR)

ABSTRACT: Varshaver and Titov have shown that nuclei of photosensitivity centers form during both the physical and second maturation and are probably distributed at random on the surface of the silver halide microcrystals. For the experiments, a silver bromide emulsion was prepared and partially neutralized with acetic acid after first maturation. At different stages during second maturation samples were taken, coated on plates, exposed and developed. The photosensitivity was then measured, taking as a criterion an optical density exceeding fog density by 0.85. Uniform nuclei were created on the surface of the emulsion crystals by the addition of various reagents, followed by heating at 45°C for 10 minutes. The relation of the maximum sensitivity to the type and amount of nucleating reagent used is shown in table 1. The experiments indicated that the preliminary formation of nuclei

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SOV 77-3-4-3/23

The Role of Nucleus Centers in the Chemical Maturation of Photographic Emulsions

on the crystals' surface favors the growth of active silver centers during the second maturation and thus increases the sensitivity of the emulsion. The influence of gold ions on emulsions with these preliminary nucleus centers was studied and the results set out in figure 1. Gold sensitization increased the sensitivity of both the control and the processed emulsions. The influence of the pH and temperature of the medium on the stability of these nucleus centers was studied. Decreasing the pH lowers the sensitivity by decomposing the nuclei, but temperature has no effect up to quite high temperatures when the nuclei begin to decompose. Professor Chibisov helped in the work with suggestions. There are 3 tables, 2 graphs and 7 references 6 of which are Soviet and 1 English.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (All-Union Research Institute for Cinematography and Photography)
SUBMITTED: November 5, 1956.

1. Photographic emulsions--Photochemical reactions
2. Photographic emulsions--Photosensitivity
3. Nuclei--Decomposition

Card 2/2

USSR/Chemistry of Colloids - Dispersed Systems.

S-14

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 18776

Author : I.M. Ratner, T.A. Koretskaya, V.A. Kargin.

Title : Study of Structure of Silver Sols.

Orig Pub : Kolloid. zh., 1956, 18, No 4, 468-469

Abstract : The structure alteration of Ag sols during the process of aging was investigated by the method of simultaneous electroneographic and electron-microscopic research. The sols were produced by a continuous shaking of Ag_2O powder in twice distilled water with a following reduction by white phosphorus, hydrazine or formaldehyde. It was shown that the initially amorphous sol particles attain a crystalline structure while aging. The mechanism of this transition is the same as the mechanism of the analogous process in Au sols.

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RATNER, I. M.

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 ✓ Structure of silver centers in the photographic emulsion.
 I. M. Ratner, K. V. Chibisov, and V. A. Kargin. *Zhur. Nauch. i Priklad. Fot. i Kinematografi* 2, 7-12 (1957); cf. *C.A.* 48, 2409b.—The aging of Ag sols (I) prepd. in various ways was studied by electron microscopy and electron diffraction. Electron micrograms (15,000 diams.) are shown of I prepd. by the reduction of Ag₂O with white P at 20° and allowed to stand up to 90 hrs. Freshly prepd. I consist of amorphous particles up to 2 μ in length. After 15 min. at 20° crystn. begins in these particles. Within 90 hrs. crystn. is complete. Electron micrograms are also shown of Ag of ripening in a photographic emulsion at times from 0 to 14 hrs. after formation. Ag centers present in an emulsion before exposure and latent-image centers resulting from low exposures are also amorphous. As the exposure approaches the region of solarization, crystn. begins in the latent-image centers. Fog centers produced by short ripening times are amorphous; their transition to the cryst. state coincides with the beginning of inversion of fog. Addn. of an Ag sol contg. cryst. particles (1 μ g. Ag in sol per g. AgBr in emulsion) has no effect on the sensitivity of an emulsion, but addn. of a sol contg. amorphous particles increases the sensitivity from 240 to 350 units (about 46%). The fog d. is unchanged. J. W. Loweberg, Jr.

5
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RYTER, I. A.

RYTER, I. A. -- "Investigation of the Role of Internal Centers of a Photographic Emulsion." Sub 27 May 52, All-Union Sci Res Cinematographic Inst (VNIKI) (Dissertation for the Degree of Candidate in Technical Science.)

MO: Vechernaya Moskva, January-December 1952

RATNER, I. M.

Structure of silver sols. I. M. Ratner, T. A. Koretskaya, and V. A. Kargin (Sci. Research Kino-Photo-Inst., Moscow). *Kolloid. Zhur.* 18, 468-9 (1956); cf. *C.A.* 47, 3083d. — Electron photomicrographs and electron diffraction patterns of Ag sols prepd. by reduction of aq. Ag_2O solns. with N_2H_4 and CH_3O showed that the particles were first amorphous and then crystd. in about 1 hr.

J. J. Bikerman

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RATNER, I.M.; KORMETSKAYA, T.A.; KARGIN, V.A.

Study of the structure of silver sols. Koll.shur.18 no.4:468-469
Jl-Ag '56. (MLRA 9:10)

1.Nauchno-issledovatel'skiy kinofotoinstitut, Moskva.
(Silver)

ZHARIKOV, N.M.; LEVIT, V.G.; POPOVA, M.S.; RATNER, I.O.; STANKEVICH, I.A.;
SHIMANOVA, L.M.

State of schizophrenia treatment based on data of an
outpatient study. Zhur. nevr. i psikh. 64 no.6:911-918 '64.
(MIRA 17:12)

1. Institut psikiatrii AMN SSSR, Moskva.

L 8504-66 EWT(m)/EWP(v)/EWP(j)/T/ETC(m) WH/RM

ACC NR: AP5028477

SOURCE CODE: UR/0286/65/000/020/0063/0063

AUTHORS: Ratner, I. S.; Volovich, Z. M.; Baklanov, G. M.; Kulakovskiy, V. A.; Gorskiy, B. Z.; Volk, A. I.-Kh.; Andreyev, A. A.; Arkdzhovskiy, V. N.; Timofeyev, N. Ya.; Meytin, R. Ya.

ORG: none

TITLE: A device for saturating fibrous reinforcing materials with a binder. Class 39, No. 175641

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 63

TOPIC TAGS: bonding material, industrial instrument, mechanical motion instrument

ABSTRACT: This Author Certificate presents a device for saturating fibrous reinforcing materials with a binder. The device contains a mechanism for moving the material over a rigid base and a working percussion instrument. The latter is set into reciprocating motion in a plane normal to the motion of the material. To increase the productivity of the device while improving the saturation quality, the working instrument consists of spring-loaded plates mounted on a common traverse. Elastic supports are fixed to that side of the plates which is toward the material being worked.

SUB CODE: 13/ SUBM DATE: 13Dec62

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WDC: 670.006.2

8(6)

SOV/112-59-5-8550

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 5, p 22 (USSR)

AUTHOR: Ratner, I. S.

TITLE: Methods for Calculating Partial Conditions in a Gas-Turbine Plant

PERIODICAL: Tr. Leningr. metallich. z-da, 1957, Nr 5, pp 275-291

ABSTRACT: Two methods of successive approximations are considered for solving a set of nonlinear equations in the calculation of partial conditions in gas-turbine plants: (1) a method of graphically determining the approximations, and (2) the Newton method. The first method is illustrated by a sample calculation of two 2-shaft gas-turbine plants driving an electric generator.

I. I. G.

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3(6)

SOV/112-59-5-8551

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 1, p 22 (USSR)

AUTHOR: Ratner, I. S.

TITLE: Investigation of the Stability of a Single-Shaft Gas Turbine Having a Regenerator With a Relatively Large Time Constant

PERIODICAL: Tr. Leningr. metallich. z-da, 1957, Nr 5, pp 292-300

ABSTRACT: A method of factorization of a characteristic determinant of a controlled system is presented. The system comprises elements that have fairly large or small time constants; that permits using an electric simulator for investigating the system stability. An application of the method to a specific problem -- an investigation of the stability of a single-shaft heat-regenerating gas turbine -- is considered.

I. I. G.

Card 1/1

SOV/124-59-i-285

Translation from: Referativnyy zhurnal. Mekhanika, 1959, Nr 1, p 37 (USSR)

AUTHOR: Ratner, I.S.

TITLE: On the Proper Stability of Stationary ²³Gas Turbine Units

PERIODICAL: [Tr.] Leningr. metallich. z-da, 1957, Vol 5, Nr 301-321

ABSTRACT: For the investigation of the proper stability, line-arized equations of the fundamental elements of single-shaft gas turbine unit (Turbine, compressor, combustion chamber, heat-exchanger, regenerator, cooler, pipeline, shaft) and the characteristic determinant of the system of the third order with respect to λ are completed. The research shows that the stability of a single-shaft unit is determined by the sign of the free term of the characteristic equation. The character of the influence of the unit-parameters on the stability and the influence of the temperature changes along the housing are discussed.

N.A. Kolokol'tsev

Card 1/1

RATNER, I.S., kand. tekhn. nauk; LANDMAN, A.A., inzh.

Modeling of the transmission of an impulse in hydraulic
pipes of a turbine control system. Energomashinostroenie
10 no.2:14-20 F '64. (MIRA 17:6)

RATNER, I.S., kand.tekhn.nauk

Natural stability of a single-shaft gas turbine unit. Energomashinostro-
enie 8 no.3:30-34, Mr '62. (MIRA 15:2)
(Gas turbines--Design and construction)

RATNER, I. S., Cand Tech Sci (diss) -- "Some problems in computing the regulation of gas-turbine equipment". Leningrad, 1960. 10 pp (Min Higher and Inter Spec Educ RSFSR, Leningrad Polytech Inst im M. I. Kalinin), 150 copies (KL, No 12, 1960, 128)

8(6)

SOV/112-59-5-8552

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 5, p 22 (USSR)

AUTHOR: Ratner, I. S.

TITLE: Inherent Stability of Stationary Gas-Turbine Plants

PERIODICAL: Tr. Leningr. metallich. z-da, 1957, Nr 5, pp 301-321

ABSTRACT: The problem of inherent stability of stationary gas-turbine plants is investigated on the basis of equations of their discrete schemes. Under certain assumptions made in setting up the differential equations describing the gas-turbine scheme, the conditions of inherent stability are obtained for a single-shaft plant with and without the allowance for temperature variation along the pipe connecting the turbine with the combustor. Stability limits are found for both cases. It is stated that the inherent stability of a single-shaft gas turbine is practically determined by the sign of the free term of the characteristic equation. This inference can be extended over some 2-shaft gas turbines. A sample 2-shaft gas turbine is considered.

I.I.G.

Card 1/1

RATNER, I.S. (Leningrad)

Concerning the use of simulating devices in the determination of
transient processes in systems containing links described by
telegraph equations. Avtom.1 telem. 23 no.4:453-460 Ap '62.
(MIRA 15:4)

(Automatic control)

RATNER, I. S.

ROTNER, I. S.

Bedcher, F. S., and Rotner, I. S., Engineers. Method of Determining
Universal (General) Characteristics of a pump page 270

This article deals with approximate method for determining universal (general) characteristics of a pump using special interpolation formula. The authors state that this method is very useful in determining characteristics for multistage compressors on the basis of experimental data for a single stage.

Steam and Gas Turbine Construction, Moscow Mashgiz, 1957, 351 pp.

RATNER, I. S.

Ratner, I. S., Engineer. Methods of Calculating Partial Regime of Gas Turbine Installations p. 275

The author presents methods of statical design of dual-shaft gas-turbine installations driving an electric generator. He states that this involves a solution of the system of nonlinear equations and presents methods of successive approximation and a graphical method of calculation. There are 4 Soviet references.

Steam and Gas Turbine Construction, Moscow Mashgiz, 1957, 351 pp.

RATNER, I. S.

Ratner, I. S., Engineer. Investigation of Stability of a Single-shaft Gas Turbine Installation With Regenerators Having Relatively Large Time Constant
page 292

Ratner, I. S., Engineer. On Natural Stability of Stationary Gas Turbine Installations
page 301

Steam and Gas Turbine Construction, Moscow Mashgiz, 1957, 351 pp.

RATNER, I.S., inzh.

Equations for unsteady flow in the piping of gas-turbine units.
Energomashinostroenie 4 no.4:25-28 Ap '58. (MIRA 11:7)
(Gas turbines) (Gas flow)

BEIDCHER, F.S., inzh.; RATNER, I.S., inzh.

Method for determining general characteristics of compressors.
[Trudy] IZ no.5:270-274 '57. (MIRA 11:6)
(Compressors)

RATNER, I.S., inzh.

Calculating partial conditions of gas-turbine units. [Trudy] ~~1957~~
no. 5:275-291 '57. (MIRA 11:6)

(Gas turbines)

RATNER, I.S., inzh.

Investigating the stability of single-shaft gas-turbine units
having regenerators with relatively high time constant. [Trudy]
IMZ no.5:292-300 '57. (MIRA 11:6)

(Gas turbines)

RATNER, I.S., inzh.

Natural stability of stationary gas-turbine units. [Trudy] ~~IMZ~~
no.5:301-321 '57. (MIRA 11:6)

(Gas turbines)

S/103/62/023/004/003/011
D299/D301

16.8000
AUTHOR:

Ratner, I.S. (Leningrad)

TITLE:

On the use of simulators for determining transient processes in systems containing a network described by the transmission-line ("telegraphist's") equation

PERIODICAL:

Avtomatika i telemekhanika, v. 23, no. 4, 1962, 453 - 460

TEXT: An approximate method is proposed for determining transient processes by means of standard simulators. After transformations, the transmission-line equation is written as:

$$-\frac{du(p, x)}{dx} = pv(p, x) + 2a_1v(p, x) - c^2 \frac{dv(p, x)}{dx} = pu(p, x) + 2a_2u(p, x). \quad (3)$$

The solution of this equation leads to the 2 functions Ψ_1 and Ψ_2 , given by the expressions

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On the use of simulators for ...

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$$\psi_1(\sigma \xi) = e^{-\sigma^2} I_0(\sigma \xi), \quad \psi_2(\sigma \xi) = 2e^{-\sigma(\xi-\tau)},$$

$$\frac{I_1(\sigma \sqrt{\xi^2 - \tau^2})}{\sigma \sqrt{\xi^2 - \tau^2}},$$

(11)

$$\sigma = a_1 - a_2, \quad \rho = a_1 + a_2.$$

These functions are approximated as follows:

$$\psi_1(\sigma \xi) \approx \sum_{i=1}^n A_{1i} e^{\lambda_{1i} \sigma \xi},$$

(13)

$$\psi_2(\sigma \xi) \approx \sum_{j=1}^m A_{2j} e^{\lambda_{2j} \sigma(\xi-\tau)},$$

(14)

where the coefficients A_{2j} and λ_{2j} are constant (for fixed $\sigma\tau$). In general, such an approximation leads to transcendental equations which are difficult to solve. For the functions $\Psi_1(y)$, $\Psi_2(y)$, ($y = \sigma t$), however, the problem can be simplified. In this case, a point approximation yields 2 simple equations with respect to each pair A_i , λ_i . Such an approximation is sufficiently accurate for

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On the use of simulators for ...

S/103/62/023/004/003/011
D299/D301

many practical problems, where argument varies in the interval $0 \leq y \leq 10$; in fact, the approximation is accurate to within 1.5 - 3 %. The adequateness of the approximation is borne out by a comparison between two resonance curves, one of which corresponds to the exact solution, and the other - to the approximate solution, obtained by means of the above method on the integrator MPT-11 (MPT-11). After transformations, one obtains a system of equations (21)-(24), the first of which being

$$\frac{dX_{1i}}{dt} = \sigma \lambda'_{1i} X_{1i} + \frac{\sigma}{c} A'_{1i} \lambda'_{1i} u(t, 0). \quad (21)$$

An additional system of equations is obtained for the boundary conditions, (27)-(29); the first of these equations is:

$$B_a \dot{Z}_1 + \sum_{\beta=1}^n a_{a\beta} Z_\beta = h_1 + \sum_{\rho=1}^n \left[\gamma_{1\rho} e^{-\tau_1} u_\rho(t - \tau) + \delta_{a\tau} \sum_{i=1}^n X_{\rho i} + \kappa_{a\tau} \sum_{j=1}^{m'} Y_{\rho j} \right], \quad (27)$$

Equations (21)-(24) and (27)-(29) constitute a closed system which can be solved by standard integrators of type MPT-11 and MH-8 (MH-8). Several numerical examples are given. Conclusions: The proposed Card 3/4

On the use of simulators for ...

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method is based on approximating functions of real variables by the

sum $\sum_{i=1}^n A_i e^{\lambda_i t}$. In the case under consideration, it was possible to

considerably simplify the problem, and to approximately represent the relationship between the variables at the boundary of the network by a system of ordinary differential equations with constant coefficients and lag variables. This makes it possible to use standard simulators for determining the transient processes in systems, described by the transmission-line equation and by ordinary differential equations. There are 3 figures and 5 Soviet-bloc references.

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6671. Procedure for investigating unconditioned motor reflexes in man, and conditioned reflexes to kinaesthetic re-inforcement. K. S. Ratner *Trud. Obshch. Fiziol.*, 1934, 8, 28-34; *Referat. Zh. Biol.*, 1936, Abstr. No. 92397. — The reflex contraction of the flexors of the finger was studied. The subject squeezed the handles of a dynamometer, then the experimenter moved these handles slightly apart: this produced a flexor unconditioned reflex response to the kinaesthetic stimulus of the stretch of the muscles. This reflex often attains relatively great force (up to 25 kg.) and duration (15 sec. or more). By combination of the stretch with an indifferent stimulus (e.g. a bell) various conditioned reflexes may be set up (flexion in response to this or that signal). The method is suggested as suited to the investigation of proprioceptive motor reflexes in man. (Russian)

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